



QUICK REVISION MODULE (UPSC PRELIMS 2022) GEOGRAPHY

INDIAN AGRICULTURE



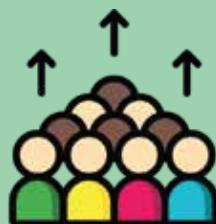
SALIENT FEATURES OF INDIAN AGRICULTURE



High percentage of reporting area under cultivation



Subsistence Agriculture



Pressure of population on agriculture



Seasonal Patterns - Rabi, Kharif, Zaid



Dependent upon Monsoon

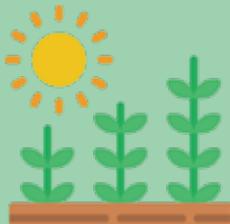


Predominance of food crops

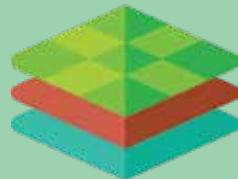
PROBLEMS OF INDIAN AGRICULTURE



Land fragmentation and disguised unemployment



Lack of crop diversification



Low productivity and failure of land reform



Low use of manures, fertilizers and biocides



Lack of irrigation and mechanisation



Absence of agriculture marketing and storage facilities

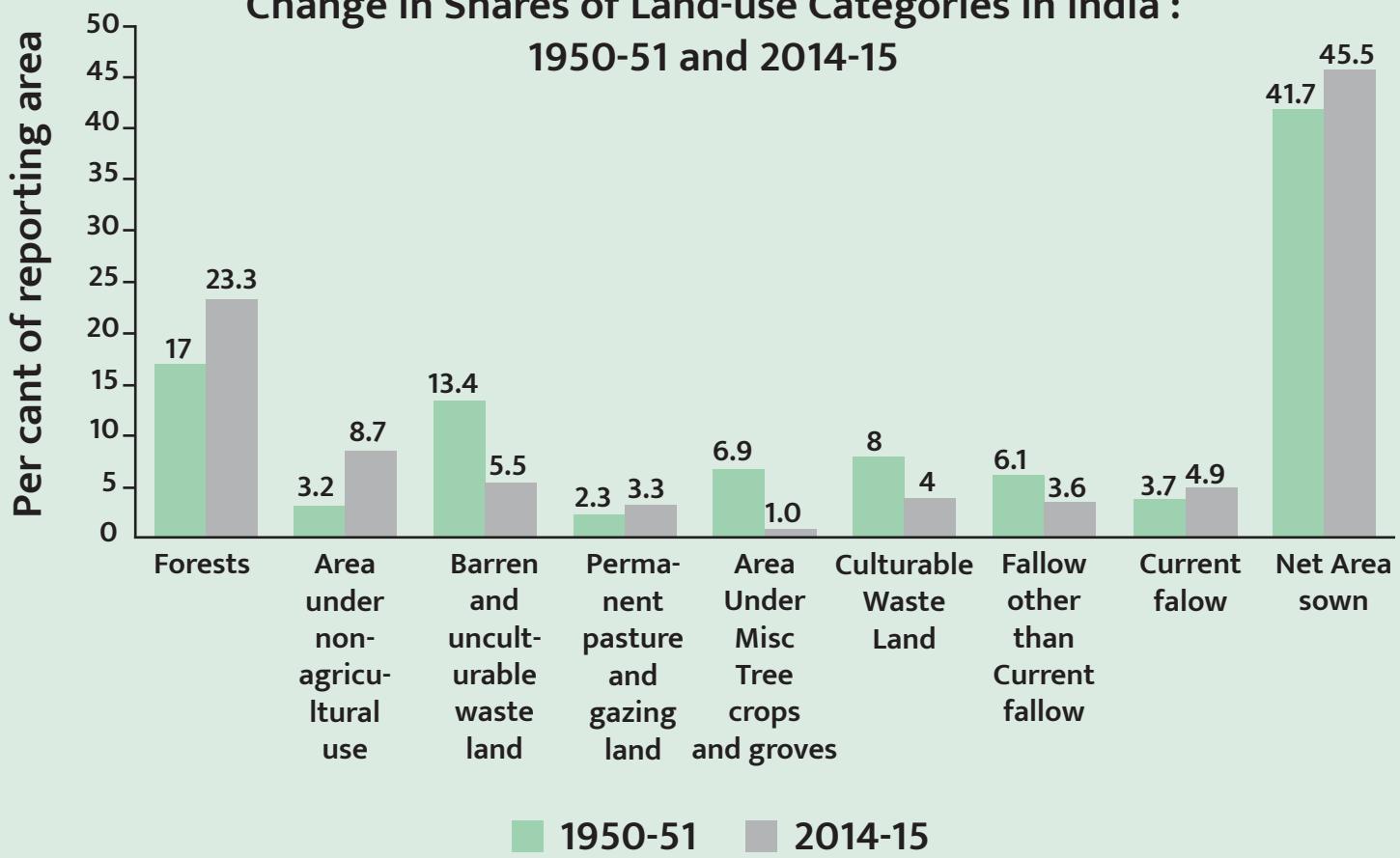
LAND USE CATEGORIES

Land-use categories as maintained in the Land Revenue Records are as follows –

- Fallow other than Current Fallow- uncultivated between 1 and 5 year
- Net sown area - land on which crops are sown.
- Current Fallow - Left without cultivation for one or less than one year
- Culturable Wasteland - Fallow for more than 5 years
- Area under Miscellaneous Tree Crops and Groves
- Area under permanent pastures
- Land under non-agricultural use
- Barren and waste land - can not be brought under cultivation
- Forest

LAND USE CHANGES

Change in Shares of Land-use Categories in India :
1950-51 and 2014-15



The following observations can be made:

Observation-1



Trend

The rate of increase is the highest in case of area under non-agricultural uses. The area under non-agricultural uses is increasing at the expense of wastelands and agricultural land.

Reason

Due to the changing structure of Indian economy, and expansion of area under both urban and rural settlements.

Observation-2



Trend

The increase in the share under forest

Reason

Can be accounted for by increase in the demarcated area under forest rather than an actual increase in the forest cover in the country.

Observation-3



Trend

Trend of current fallow fluctuates a great deal over years



Reason

Depending on the variability of rainfall and cropping cycles.



Observation-4



Trend

Increase in net area sown



Reason

Due to use of culturable waste land for agricultural purpose.

CROPPING SEASONS

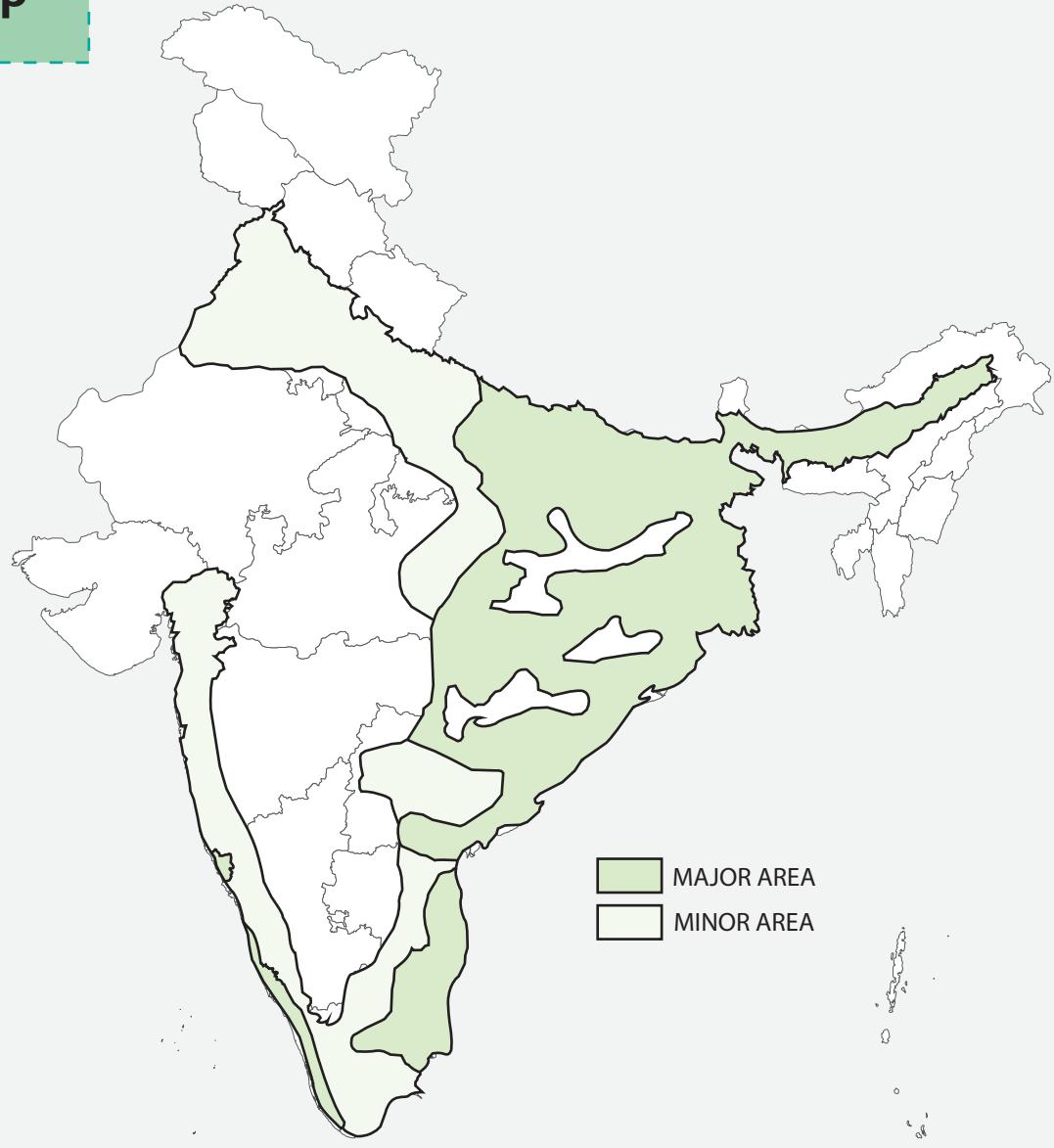
Cropping Season	Major Crops Cultivated	
	Northen States	Southern States
Kharif June -September	Rice, Cotton, Bajra Maize, Jowar, Tur	Rice, Maize, Ragi, Jowar, Groundnut
Rabi October-March	Wheat, Gram, Rapeseeds and Mustard, Barley	Rice, Maize, Ragi, Groundnut, Jowar
Zaid April-June	Vegetables, Fruits, Fodder	Rice, Vegetables, Fodder

MAJOR CROPS

Crop	Climatic conditions	Area of cultivation
<ul style="list-style-type: none">Rice	<ul style="list-style-type: none">Tropical and sub-tropical plantRequires high temperature of more than 22°CRainfall more than 100 cm.Soil - Clayey alluvial soil.	<ul style="list-style-type: none">West Bengal,Punjab,Uttar Pradesh,Andhra PradeshTamil Nadu.



Map



The map illustrates the distribution of rice cultivation across India. Major areas of cultivation are shaded in light green, primarily concentrated in the eastern and southern parts of the country, including West Bengal, Bihar, Jharkhand, Odisha, Andhra Pradesh, and Tamil Nadu. Minor areas are represented by white regions, which are widespread across the rest of the country, including the northern states like Punjab, Haryana, Rajasthan, and Uttar Pradesh, as well as the western states like Gujarat and Maharashtra.

Legend:

- MAJOR AREA
- MINOR AREA



Crop

- Wheat



Climatic conditions

- Crop of temperate zone
- Winter temperature of 10° to 15° C and summer temperature of 21°C to 26°C
- It requires a rainfall of 50 to 75 cm.
- Soil – clay loam or loam texture



Area of cultivation

- Uttar Pradesh,
- Punjab,
- Haryana,
- Rajasthan
- Madhya Pradesh



Map





Crop



Climatic conditions



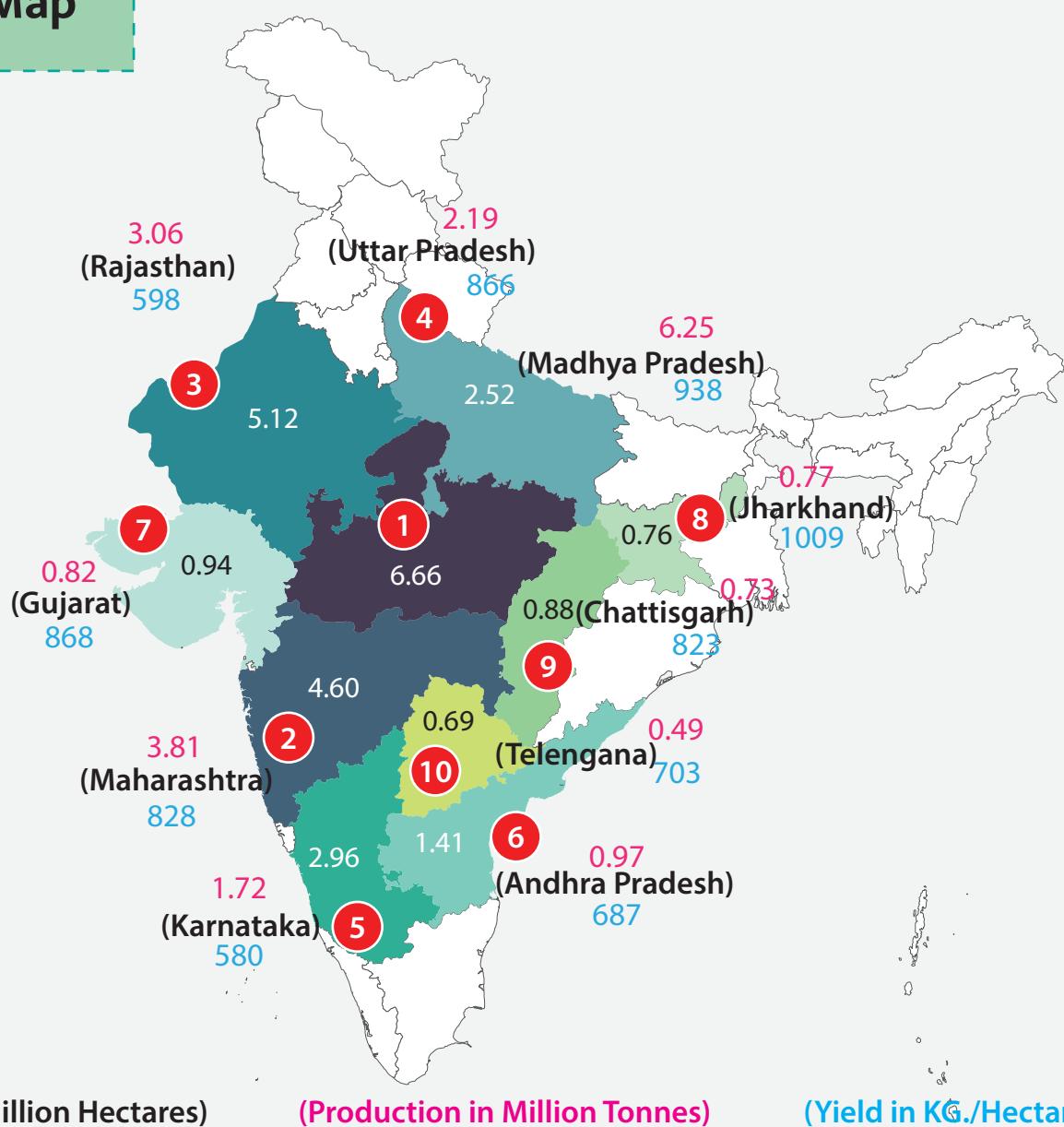
Area of cultivation

Pulses

- India is a leading producer of pulses (one-fifth of the total production of pulses).
- Temperature: 20° - 27°C
- Rainfall : 25 - 60 cm
- Soil : Sandy - loam

- Dryland of Deccan and
- central plateaus and north western parts of the country.

Map



 Crop	 Climatic conditions	 Area of cultivation
<ul style="list-style-type: none"> • Oil seeds 	<ul style="list-style-type: none"> • Temperature: 15° - 30°C • Rainfall : 30 - 50 cm • Soil : loam to clayey loam 	<ul style="list-style-type: none"> • Dryland of Malwa plateau • Marathwada, • Gujarat, • Rajasthan, • Telangana and • Rayalseema region of Andhra Pradesh and • Karnataka plateau
 Map		
<p>(Area in Million Hectares)</p>	<p>(Production in Million Tonnes)</p>	<p>(Yield in KG./Hectare)</p>



Crop

- Cotton



Climatic conditions

- Tropical crop grown in Kharif season in semi-arid areas of the country.
- Cotton requires clear sky during flowering stage.
- Temperature : 21°C – 30°C
- Rainfall : 50 - 100 cm.
- Soil : well - drained loam, and regur.

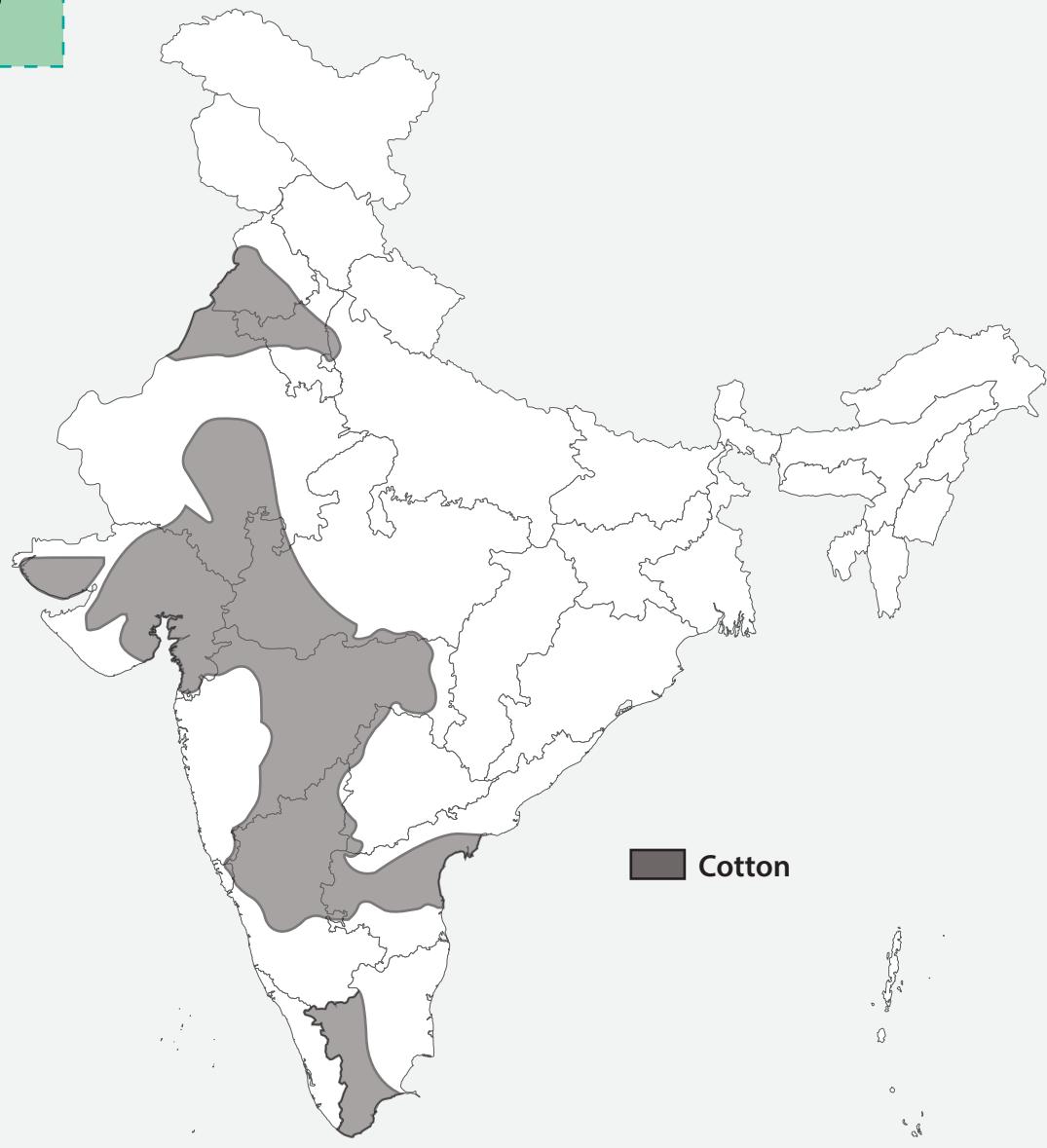


Area of cultivation

- Part of Punjab, Haryana and northern Rajasthan in north-west,
- Gujarat and Maharashtra in the west and Plateaus of Andhra Pradesh, Karnataka and Tamil Nadu in south.



Map



■ Cotton



Crop

- Jute



Climatic conditions

- Temperature : 24°C – 35°C and
- Rainfall : 120 - 150 cm.
- Soil : Well drained alluvial Soil

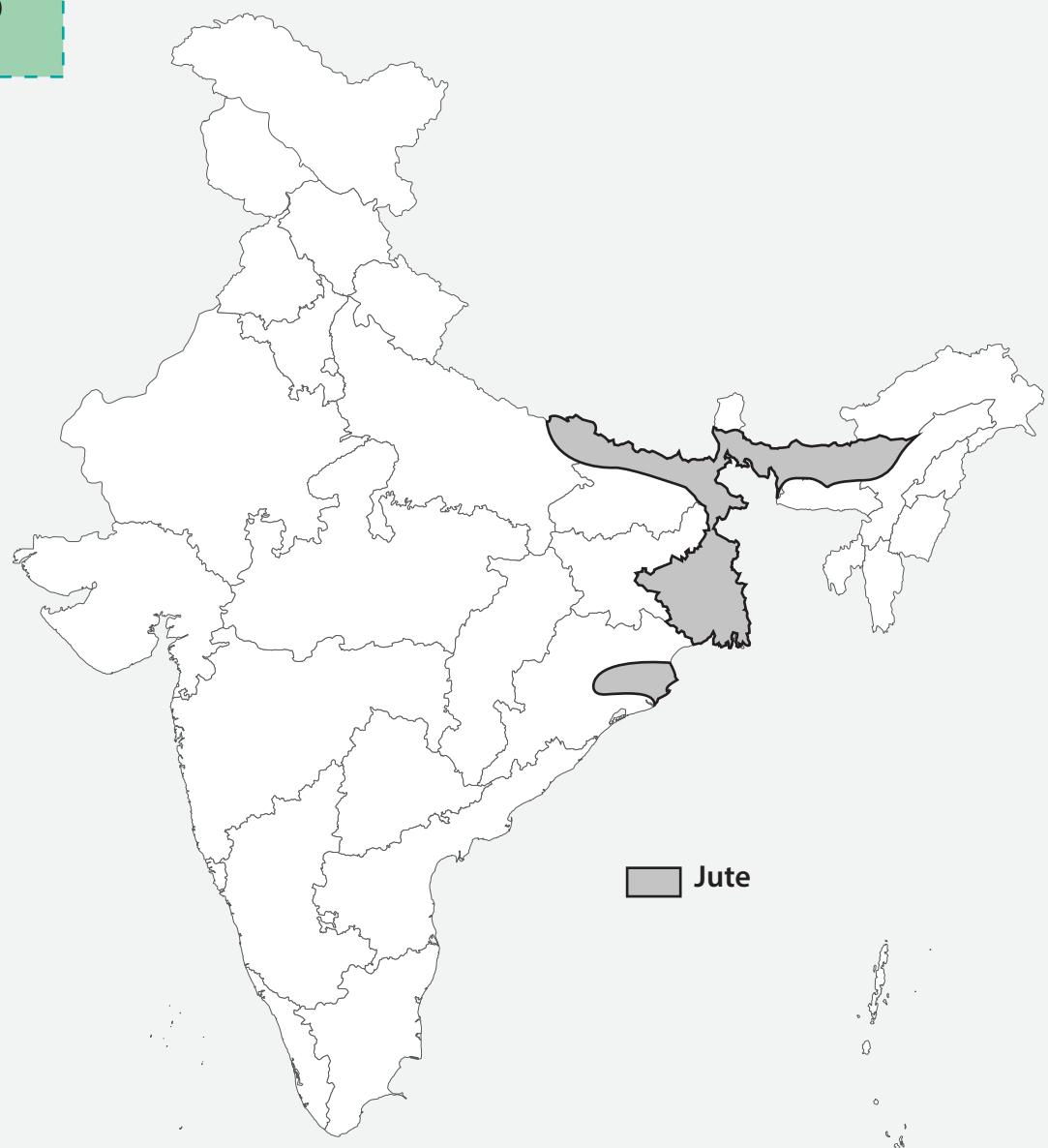


Area of cultivation

- West Bengal accounts for about three - fourth of the production in the country.
- Bihar and Assam.



Map





Crop

- Tea



Climatic conditions

- It is grown over undulating topography of hilly areas &
- well drained soils in humid and sub - humid tropics and sub - tropics.
- Temperature : $20^{\circ}\text{C} - 30^{\circ}\text{C}$
- Rainfall : 150 - 300 cm.
- Soil : well - drained, light loamy Soil

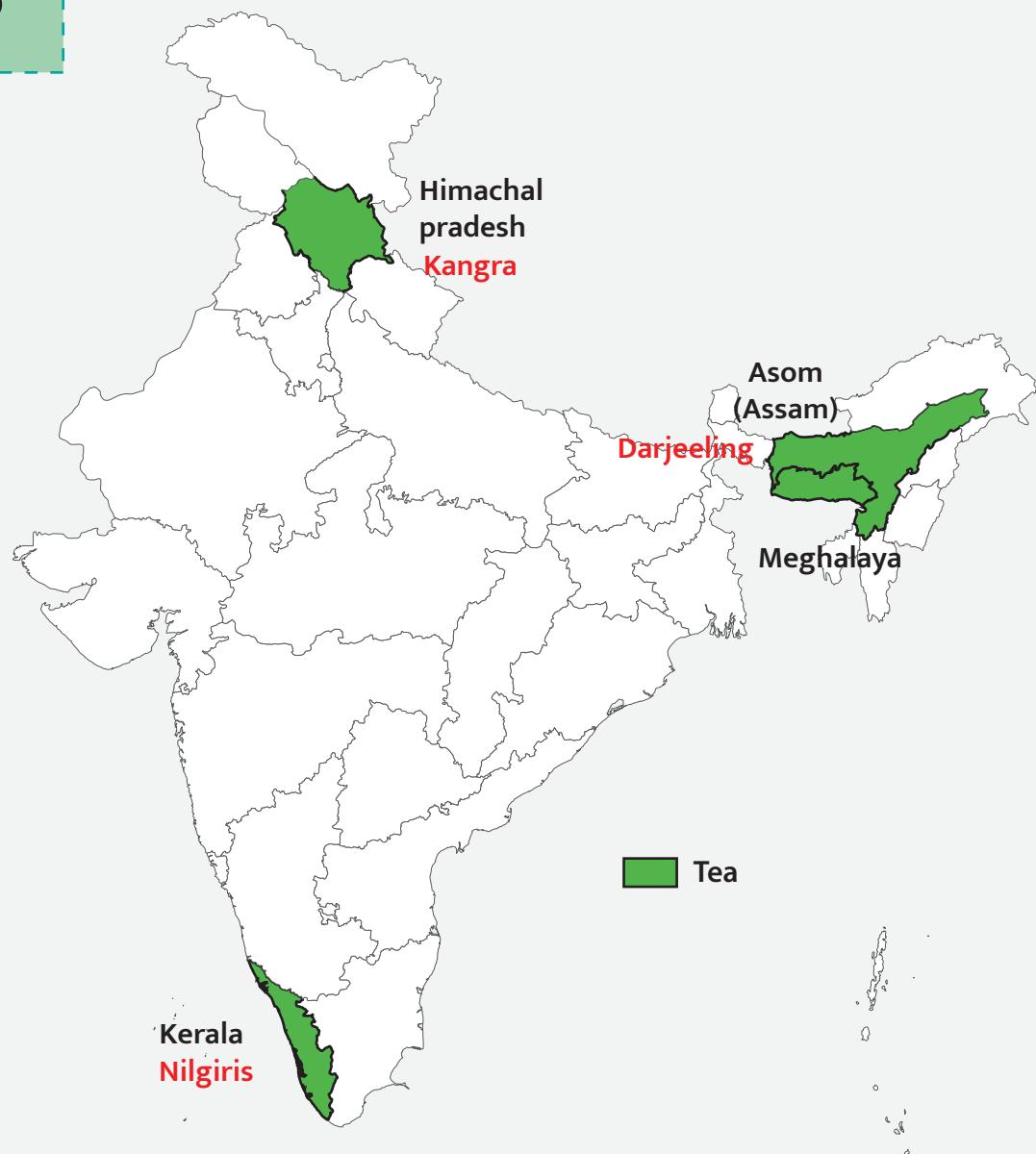


Area of cultivation

- Brahmaputra valley of Assam,
- Sub-Himalayan region of West Bengal (Darjiling, Jalpaiguri and Cooch Bihar districts) and
- lower slopes of Nilgiris and Cardamom hills of Western Ghats.



Map





Crop

- Sugarcane



Climatic conditions

- Crop of tropical areas.
- Under rainfed conditions, it is cultivated in sub humid and humid climates.
- It requires hot and humid climate.
- **Temperature :** 21°C - 27°C
- **Rainfall :** 75 - 100 cm
- **Soil :** Well - drained alluvium, black, red and brown regur soil

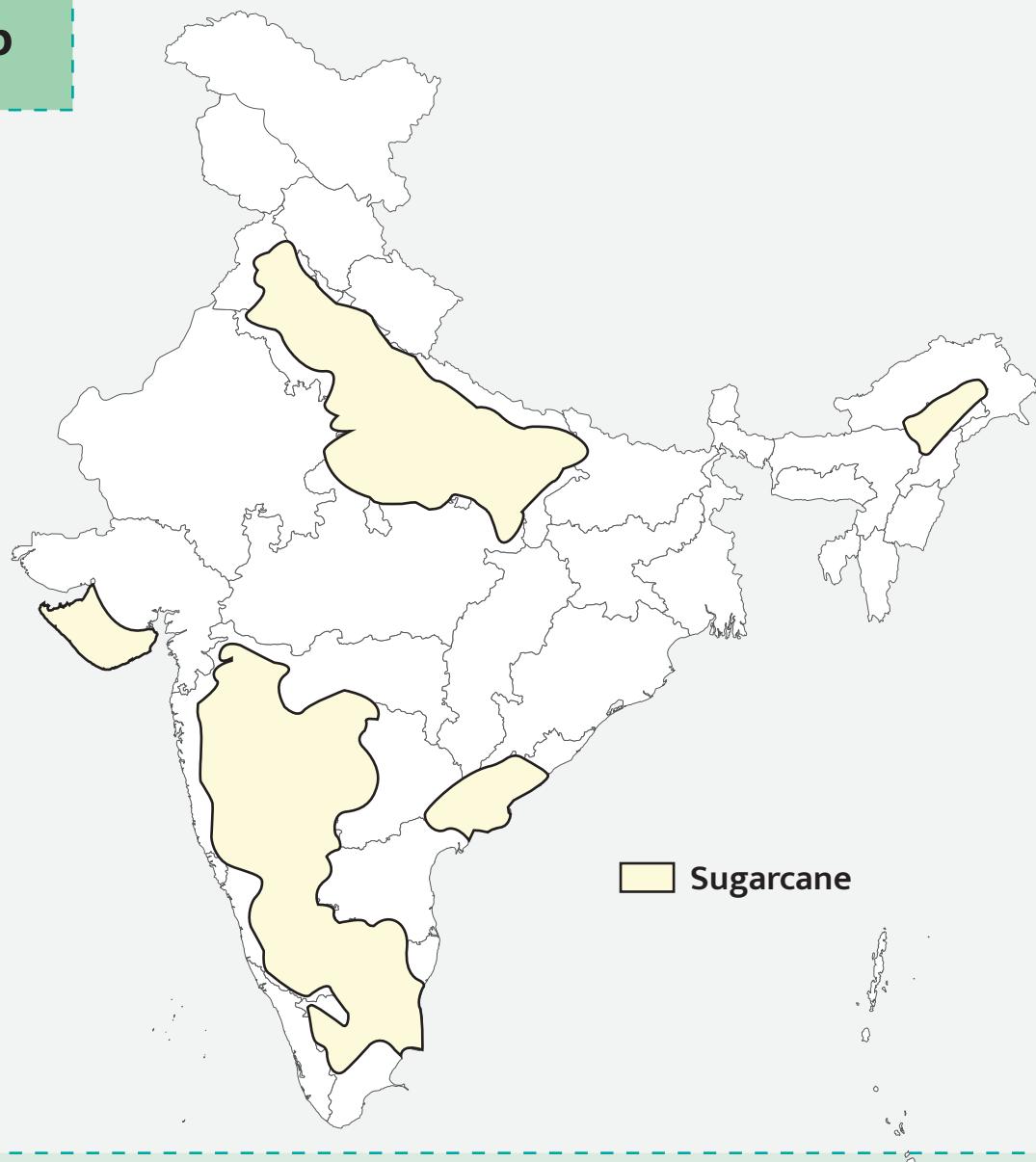


Area of cultivation

- In Indo-Gangetic plain, its cultivation is largely concentrated in Uttar Pradesh (2/5th of India).
- In western India – Maharashtra and Gujarat.
- In southern India – Karnataka, Tamil Nadu and Andhra Pradesh.

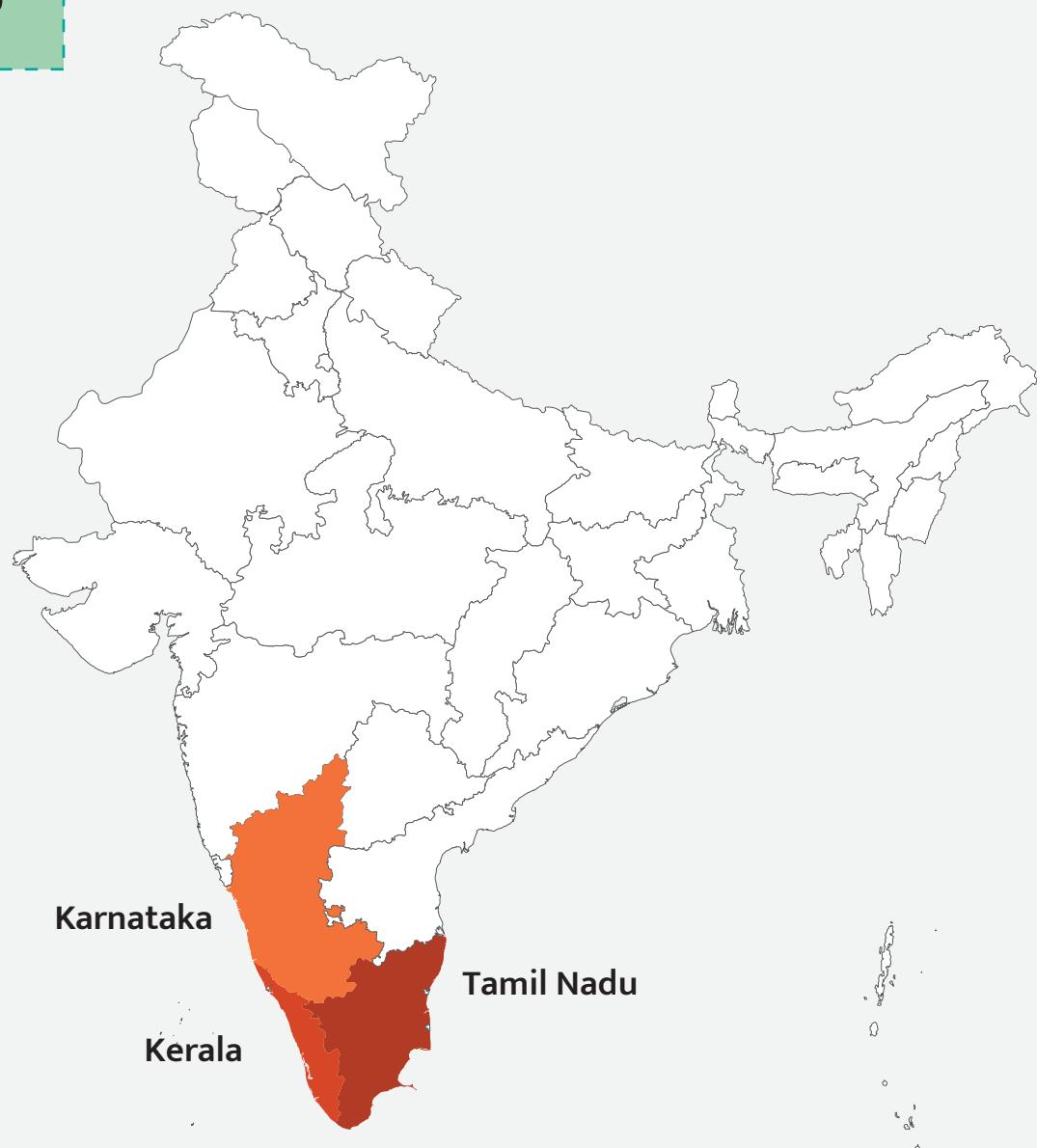


Map



 Crop	 Climatic conditions	 Area of cultivation
<ul style="list-style-type: none">• Coffee	<ul style="list-style-type: none">• Tropical plantation crop.• Temperature : 15°C and 28°C• Rainfall : 150 cm to 250 cm.• Soil : well - drained alluvial soil	<ul style="list-style-type: none">• Cultivated in the highlands of Western Ghats in Karnataka, Kerala and Tamil Nadu


Map



The map shows the outline of India with three states highlighted in orange: Karnataka in the west-central part, Kerala in the西南部, and Tamil Nadu in the southeast. The remaining states and union territories are shown in white.

OTHER CROPS

 Crop	 Climatic conditions	 Soil requirements	 Area of cultivation
Jowar	Temp: 26°C – 33°C Rain: About 30 cm	Clayey, regur and alluvium	Maharashtra, Karnataka, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Rajasthan and Gujarat
Bajra	Temp: 25°C – 30°C Rain: 40 - 50 cm	Sandy loams, black and red Soils	Maharashtra, Gujarat, Uttar Pradesh, Rajasthan and Haryana.
Maize	Temp: 21°C – 27°C Rain: 50 - 100 cm	Deep fertile well drained soil rich in organic matter with good water holding capacity	Madhya Pradesh, Andhra Pradesh, Karnataka, Rajasthan and Uttar Pradesh
Ragi	Temp: 20°C – 30°C Rain: 50 - 100 cm	Red, light black sandy loams	Karnataka, Tamil Nadu, Andhra Pradesh, Orissa, Bihar, Gujarat and Maharashtra
Gram	Temp: 20°C – 25°C Rain: 40 - 50 cm	Well-drained fertile silt and clayey loams	Madhya Pradesh, Uttar Pradesh, Rajasthan, Haryana and Maharashtra

Groundnut	Temp: 20°C – 30°C Rain: 50 - 80 cm	Sandy loams and black soil	Andhra Pradesh, Tamil Nadu, Karnataka, Gujarat & Maharashtra.
Rapeseed & Mustard	Temp: 10°C – 20°C Rain: 50 - 100 cm	Alluvial soil	Uttar Pradesh, Rajasthan, Punjab, Haryana, Madhya Pradesh and Chhattisgarh
Sesamum (Til)	Temp: 20°C – 25°C Rain: About 50 cm	Well-drained light loamy soils	Orissa, Rajasthan, Gujarat, Tamil Nadu, Maharashtra, West Bengal and Madhya Pradesh.
Sunflower	Temp: 15°C – 25°C Rain: About 50 cm	Well-drained loamy soil	Karnataka, Maharashtra, Andhra Pradesh, Haryana, Bihar and Uttar Pradesh
Soyabean	Temp: 15°C – 25°C Rain: 40 - 60 cm	Friable loamy soils can retain moisture.	Maharashtra, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Gujarat and Chhattisgarh.
Linseed	Temp: 10°C – 20°C Rain: 50 - 75 cm	Clay loams, deep black soils and alluvial soils moisture.	Madhya Pradesh, Uttar Pradesh, Bihar, Chhattisgarh and Maharashtra
Coconut	Temp: 20°C – 25°C Rain: Above 150 cm	Loose porous or sandy along sea shores	Kerala, Tamil Nadu and Karnataka

Rubber	Temp: 25°C – 35°C Rain: Above 300 cm	Deep, rich and well drained loamy soil, at an elevation of about 400 metres	Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar Islands
--------	---	---	---

GREEN REVOLUTION

In mid-1960s and India introduced package technology comprising HYVs, along with chemical fertilizers in irrigated areas of Punjab, Haryana, and Western Uttar Pradesh.



-components of green revolution

1. HYV seeds.
2. Irrigation
3. Use of fertilizer, insecticide and pesticide.
4. Command area development.
5. Consolidation of land holding.
6. Land reform.
7. Agriculture marketing, farm mechanisation and rural electrification.

Impact of Green revolution

1. Increase in agriculture production – reduction in import of foodgrains.
2. Diffusion of rice and wheat technologies to new areas.
3. Prosperity of farmers.
4. Industrial growth and rural employment.
5. Change in attitude of farmers.

Demerits of green revolution

1. Inter-crop imbalances – only cereals were benefitted from GR.
2. Regional disparities
3. Increase in inter-personal inequalities.
4. Some experts doubt about capability of HYV seeds.
5. Increase in unemployment due to farm mechanisation by green revolution.
6. Environmental pollution

ICAR

Indian Council of Agricultural Research is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India.



Mandates for the ICAR are to –



- Plan, Undertake, Coordinate and Promote Research and Technology Development for Sustainable Agriculture.



- Aid, Impart and Coordinate Agricultural Education to enable Quality Human Resource Development.



- Frontline Extension for technology application, adoption, knowledge management and capacity development for agri-based rural development.



- Policy, Cooperation and Consultancy in Agricultural Research, Education & Extension.